

CLAIMS

1. A resin optical component made of resin having a high transmittance with respect to light in a required wavelength band, comprising:

5 resin portions which are discolored by energy in an absorption wavelength band of the resin, wherein
the discolored resin portion constitutes a high light absorptance portion.

2. A resin optical component according to claim 1, wherein
10 the resin optical component is a resin lens consisting of a spherical or aspherical convex micro lens, and
the high light absorptance portion is formed in the resin outside an area for transmitting the light and constitutes a light-shielding wall for interrupting a stray light.

15 3. A resin optical component according to claim 1, wherein
the resin optical component is a resin lens array plate comprising a plurality of spherical or aspherical convex micro lenses which are arrayed at a predetermined pitch, and
the high light absorptance portion is formed in the resin among
20 neighbored convex micro lenses and constitutes a light-shielding wall for interrupting a stray light.

4. A resin optical component according to claim 1, wherein
the resin optical component is a resin lens array plate comprising a plurality of spherical or aspherical convex micro lenses which are
25 arrayed at a predetermined pitch, and
the high light absorptance portion is formed in the resin among the respective peripheries of neighbored convex micro lenses and constitutes a light-shielding wall for interrupting a stray light.

5. A resin optical component according to claim 3 or 4, wherein
30 the light-shielding wall is formed one-third or more the thickness of the resin lens array plate in a thickness direction thereof.

6. A resin optical component according to any one of claims 1-4, wherein the resin is a cycloolefin-based resin, olefin-based resin,

or norborunene-based resin.

7. A method for manufacturing a resin optical component made of resin having a high transmittance with respect to high in a required wavelength band, comprising the steps of:

5 supplying energy in an absorption wavelength band of the resin to the resin, and

forming a high light absorptance portion by discoloring a portion of the resin by the supplied energy.

8. A method for manufacturing a resin optical component
10 according to claim 7, wherein the energy is light or radiation.

9. A method for manufacturing a resin optical component according to claim 8, wherein the energy is a laser beam.

10. A method for manufacturing a resin optical component according to claim 7, wherein the resin optical component is a resin
15 lens consisting of a spherical or aspherical convex micro lens, and the high light absorptance portion is formed in the resin outside an area for transmitting the light and constitutes a light-shielding wall for interrupting a stray light.

11. A method for manufacturing a resin optical component
20 according to claim 7, wherein the resin optical component is a resin lens array plate comprising a plurality of spherical or aspherical convex micro lenses which are arrayed at a predetermined pitch, and the high light absorptance portion is formed in the resin among neighbored convex micro lenses and constitutes a light-shielding wall
25 for interrupting a stray light.

12. A method for manufacturing a resin optical component according to claim 7, wherein the resin optical component is a resin lens array plate comprising a plurality of spherical or aspherical convex micro lenses which are arrayed at a predetermined pitch, and
30 the high light absorptance portion is formed in the resin among the respective peripheries of neighbored convex micro lenses and constitutes a light-shielding wall for interrupting a stray light.

13. A method for manufacturing a resin optical component

according to claim 11 or 12, wherein the light-shielding wall is formed one-third or more the thickness of the resin lens array plate in a thickness direction thereof.

14. A method for manufacturing a resin optical component
5 according to any one of claims 7-12, wherein the resin is a cycloolefin-based resin, olefin-based resin, or norbornene-based resin.